


NORTH DAKOTA MEDICINE

University of North Dakota School of Medicine & Health Sciences





IMPACT THE LIVES OF MANY BY HAVING FAITH IN ONE

IMPACT STUDENTS AND
FACULTY WITH YOUR GIFT

Jacob Greenmyer

Stirum, ND

MD Class of 2020

Scholarship recipient

You can impact students and faculty of the School of Medicine and Health Sciences by giving through the UND Alumni Association and Foundation. Gifts help strengthen UND's ability to recruit high-ability medical students. Your faith in one health professional has the potential to shape leaders in action at UND. For more information call (701) 777-3992 or visit UNDalumni.org/SMHS.

 **UND ALUMNI ASSOCIATION
FOUNDATION**



NORTH DAKOTA MEDICINE

University of North Dakota School of Medicine & Health Sciences

UNIVERSITY OF NORTH DAKOTA
SCHOOL OF MEDICINE AND HEALTH SCIENCES

President, University of North Dakota **Mark Kennedy**

Vice President for Health Affairs and Dean, School of Medicine and Health Sciences **Joshua Wynne**

Editor **Brian James Schill**

Writers **Brenda Haugen
Stacy Kusler
Jan Orvik
Jessica Sobolik**

Contributors **Kristen Peterson
Kaitlyn Lengenfelder**

Graphic Design **Laura Cory
John Lee**

Photography **Wanda Weber**

ON THE COVER Masks created by North Dakotans living with TBI for the North Dakota Brain Injury Network's "Unmasking Brain Injury" project.

NORTH DAKOTA MEDICINE (ISSN 0888-1456; USPS 077-680) is published four times a year (March, June, September, December) by the University of North Dakota School of Medicine and Health Sciences, Room W103, 1301 N. Columbia Road Stop 9037, Grand Forks, ND 58202-9037. Periodical postage paid at Grand Forks, ND.

Printed at Forum Communications Printing, Fargo, ND.

All articles published in NORTH DAKOTA MEDICINE, excluding photographs and copy concerning patients, can be reproduced without prior permission from the editor.

POSTMASTER: Send address corrections to:
ND Medicine Address Correction
UND School of Medicine and Health Sciences
Office of Alumni and Community Relations, Attn: Kristen Peterson, 1301 North Columbia Rd. Stop 9037, Grand Forks, ND 58202-9037
E-mail: kristen.peterson@med.UND.edu
Phone: 701.777.4305

NORTH DAKOTA MEDICINE is available online at www.med.UND.edu/nd-medicine



Features

Unmasking Brain Injury	6
The North Dakota Brain Injury Network's Unmasking Brain Injury project helps survivors of TBI cope with their "new normal" and tell their stories through art	
The Biomarkers of Concussions	8
Researchers across departments at UND explore the physiology of concussions	
Serving and Learning – Pro Bono	10
UND Physical Therapy clinic serves the community while providing students the best training in the business	
From Heredity to Remedy	12
UND and the Lieber Institute for Brain Development partner to expand the world's largest brain repository for the study of brain disorders affecting the genomes unique to North Dakota	
Project Echo: Changing North Dakota Fast	14
The SMHS works with key partners to facilitate shared learning between rural primary care teams and regional specialists in the treatment of opioid use disorder	
The Ecstasy and the Agony	16
SMHS researchers take on PTSD, anxiety, and depression through less conventional means	
Patient-Centered Medicine	19
Dr. Marc Basson publishes an article in <i>JAMA Surgery</i> on what patients want in appendicitis treatment	

Departments

Dean's Letter	4
Faculty in Action - Dr. Shiraz Hyder	18
Student Profile - Emily Shawkat	20
Student Writing and Art	22
Alumni Notes	23
Philanthropy	24
News Briefs	28
In Memoriam	32
Parting Shots	34

AN OPTIMALLY FUNCTIONING NERVOUS SYSTEM



I am very pleased that Laura Block, the former chief financial officer (CFO) for the UND Alumni Association and Foundation (UNDAAF), is the new associate dean for administration and finance for the UND School of Medicine and Health Sciences (SMHS). As such, she will function as the School's CFO and chief operating officer (COO) for non-academic functions. The administration and finance operation at the SMHS has grown substantially over the past few years, due especially to the implementation of the Healthcare Workforce Initiative that was designed to augment North Dakota's health care workforce, particularly in rural regions. Along with the School's ongoing growth in research funding (thanks to the efforts of our faculty members) and increases in other sources of revenue, the School's biennial budget likely will approach a quarter of a billion dollars in the next few years. That's a big operation, and we're fortunate to have Laura to oversee our finances and non-academic operations. One of Laura's great strengths is that she is a team-oriented person who understands the vital importance of cultivating relationships. And one of our most

critical relationships is with the central administration at UND. In fact, Laura will have a "dotted line" reporting relationship to UND's vice president for finance and operations.

So what operations does the COO for non-academic functions oversee? The menu is extensive, and includes human relations operations (including payroll), finance, budget (including UND's Model for Incentive-based Resource Allocation, or MIRA), strategic and financial planning, facilities management, clinic operations, residency program financing, and much more. By the way, academic operations are overseen by our two academic deans: Marc Basson, MD, who as senior associate dean for medicine and research is responsible for programs associated with medical students and physicians; and Tom Mohr, PhD, who as associate dean for health sciences is responsible for our non-medical curriculum and programs (occupational therapy, physical therapy, medical laboratory science, sports medicine/athletic training, population health/public health, and physician assistant studies). Dr. Basson also oversees the School's research enterprise along with the Department of Biomedical Sciences.

All of that is to say that we've finally been able to evolve an organizational structure that is optimal for the School, but it's taken a while to develop. The structure that I inherited when I took over as dean almost a decade ago had nearly three dozen direct reports to the dean. This ensured that the dean was involved in virtually all administrative decisions. I made the conscious decision to change this structure, with the goal of decentralizing decision-making and putting more control and oversight at the unit and departmental level. Since the time of my initial appointment, I have reduced the number of direct reports to seven (along with Jessica Sobolik, director of alumni and community relations; Dave Gregory, director of development, and Judy Solberg, chief of staff). Including even these colleagues means I still only have 10 direct reports—a big improvement from 34!

Speaking of reporting relationships and organizational structure, one of the issues that is especially important in any organization is diversity. On that note, the Association of American Medical Colleges (AAMC) just reported that for the first time ever, the number of women entering medical schools

across the U.S. exceeded the number of men. The national incoming medical school class of 2021 that started this past fall is comprised of 50.7 percent females and 49.3 percent males. It is disappointing that it has taken this long to achieve gender equity in medical school matriculants, but we all should celebrate the achievement of this milestone. However, while grateful for this encouraging statistic, AAMC President Darrell Kirch lamented the “glass ceiling” effect in medical schools across the U.S., where only 25 of 149 deans (17 percent) are women, along with only 17 percent of all department chairs.

Here at the UND SMHS, two of five members of the associate dean senior management team (including the recently appointed CFO/COO Laura Block) and three out of six of our health sciences department chairs are women, a 45/55 percent split. That’s not too bad, although all but one of our clinical departmental chairs are men. Taken all together, six of 21 (29 percent) of our deans and chairs at the School are women—still not where I’d like it to be, but more than two-thirds better than the 17 percent national rate. And of the 10 people who report directly to me (deans and directors), four (40 percent) are women.

Why is an effective organizational structure important to organizations like ours? Because, just like our own nervous system and the theme of this issue, it is crucial that centralized organizational functions (similar to those of the brain and spinal cord, called the central nervous system) are optimally coordinated with everything else (analogous to our peripheral nervous system). People require optimal function of both their central and peripheral nervous systems—and so do organizations like the SMHS!

And speaking of the nervous system, I’m happy to report that researchers working in neuroscience were rewarded for their efforts at UND’s 2018 Founders Day banquet in February. Specifically, the university not only gave the UND Foundation/McDermott Faculty Award for Graduate or Professional Teaching Excellence to Sarah Nielsen, PhD, OTR/L, associate professor in our Department of Occupational Therapy, but gave the UND Foundation/McDermott Faculty Achievement Award for Excellence in Research to Colin Combs, PhD, professor and chair of our Department of Biomedical Sciences.

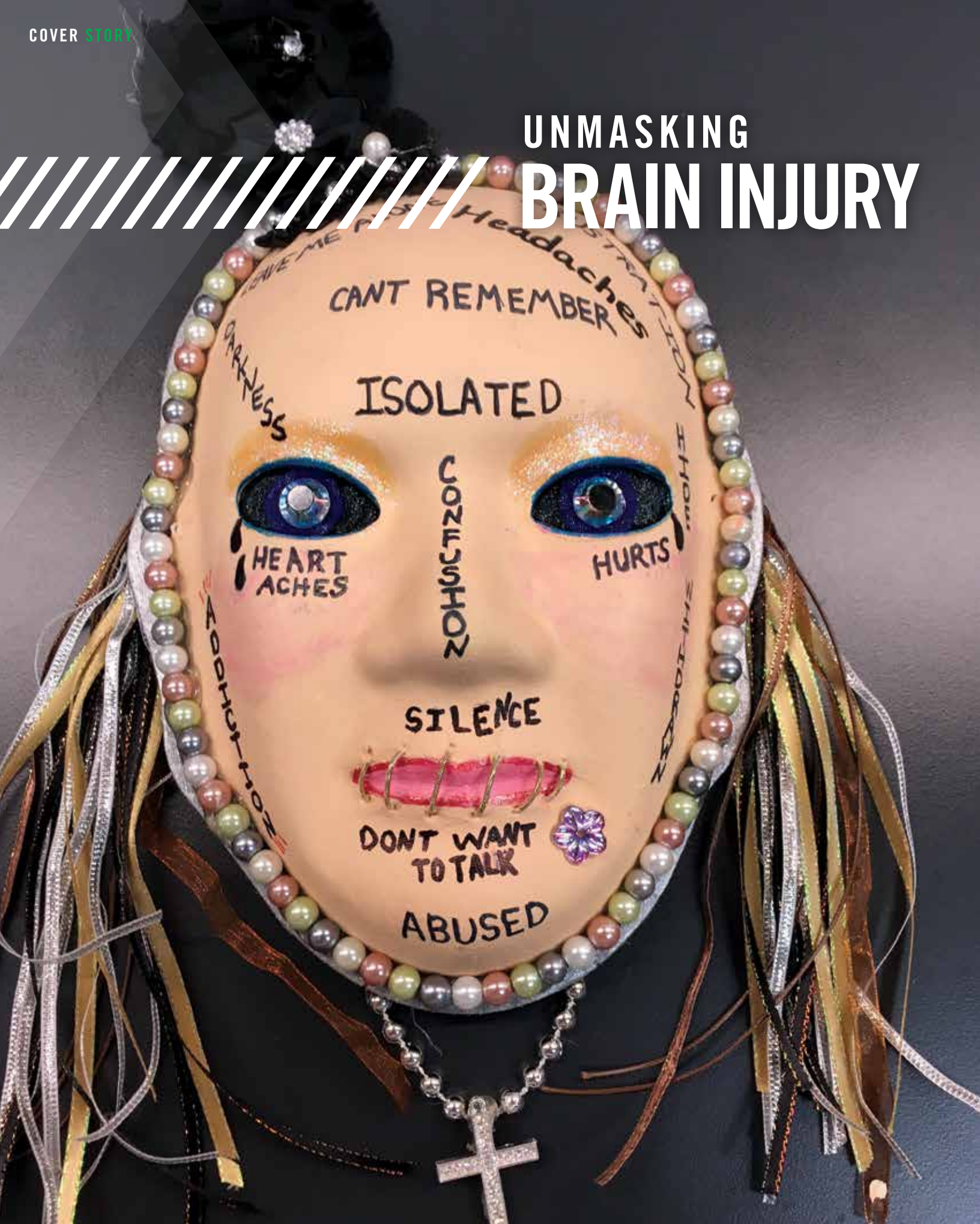
A Chester Fritz Distinguished Professor, Dr. Combs has built a career researching Alzheimer’s disease and other neurodegenerative conditions. Equally impressive is the fact that the entire department that Dr. Combs chairs won the UND Award for Departmental Excellence in Research. What wonderful accomplishments for our research enterprise, both for Dr. Combs individually and for his department’s faculty members, staff, and students as well!



Joshua Wynne, MD, MBA, MPH
UND Vice President for Health Affairs and Dean



UNMASKING BRAIN INJURY



The North Dakota Brain Injury Network’s Unmasking Brain Injury project helps survivors of TBI cope with their “new normal” and tell their stories through art

In a typical year, about 3,700 North Dakotans sustain traumatic brain injuries (TBIs). TBIs are caused by external impacts, usually violent blows to the head, and may occur in a variety of ways, from car accidents to falls to assaults. Brain injuries can also result from non-traumatic means, such as strokes, aneurisms, or oxygen loss.

But the results of brain injuries can’t always be seen. They may include everything from head, neck, and shoulder pain to memory loss, anxiety, depression, and the inability to focus on one topic. Many of the more than 13,000 North Dakotans living with long-term disabilities from TBIs must cope each day with the fact that these types of injuries aren’t readily apparent.

Deanna G., for instance, sustained a TBI in a car accident and was told she’d never walk again. After using a wheelchair for about six years she learned to walk again but still had to work hard to read, write, and do math.

“Please, people, realize we are people too, and we need help. It’s a hurt no one can see. A SILENT DISEASE,” wrote Deanna, who despite her victories struggles with the fact that people often cannot see the effect her TBI continues to have on her life.

Now, Deanna and other brain injury survivors are finding their voices through the Unmasking Brain Injury project, which was launched by the North Dakota Brain Injury Network (NDBIN) in January 2017. Through Unmasking Brain Injury, NDBIN provides art supplies—masks, paints, and other materials—to survivors, who can tell their stories through personalized masks.

“The purpose of the mask is to remind viewers that brain injuries are often invisible,” said Rebecca Quinn, program director of NDBIN. “This shows the injury inside in a visible way.”

Not only do the masks educate others about what it is like to live with a brain injury, they also provide a creative, therapeutic outlet for survivors.

Since the project’s inception in North Dakota, more than 70 brain injury survivors have created masks; NDBIN has hosted 11 events across the state for people to create masks. The organization also mails masks to individuals, along with a lesson plan that walks them through the process, if they are unable to attend a larger event.

Taylor B. deals with a brain injury he sustained after repeated concussions.

“I’ve sustained five severe concussions within two years,” Taylor noted in the write-up accompanying his mask. “I struggle with the new person I am today and everyday life struggles that come with the injuries. I’m trying to find myself in a different person. I am very thankful for the little but yet oh-so-big improvements I’ve made.”

Along with providing TBI survivors an outlet to share their pain and struggles, the Unmasking Brain Injury project also gives them the opportunity to show there is hope.

Shannon B. sustained a TBI in 2010 in an accident involving a horse.

“I feel that everyone’s brain is their hard drive, and when your hard drive blows up, everything is now very complicated,” Shannon explained in reference to her mask. “My hard drive blew up, and I had to re-wire my brain so I could function again. I prayed for God to give me back brains and hair, and He answered by making me a walking miracle.”

Since 2013, NDBIN has worked statewide to raise awareness about brain injury prevention. Funded by a contract with the North Dakota Department of Human Services, NDBIN also helps people with brain injuries—and their families and caregivers—navigate the service system. Located in the Center for Rural Health at the University of North Dakota School of Medicine and Health Sciences, NDBIN provides personalized help in finding support groups, identifying and accessing appropriate programs and benefits, and offering referrals to pre-employment training.

“It’s important for raising awareness of brain injury in our community and connecting survivors with resources,” Quinn said.

Toward that effort, NDBIN facilitates the annual Mind Matters Conference on brain injury. The conference serves as a forum for brain injury survivors, family members, health care providers, and speakers with expertise in the field to talk about brain injury services and share best practices. This year’s event will be held April 10 and 11 at the Fargo Holiday Inn.

For more information about TBIs, the Unmasking Brain Injury project, the Mind Matters Conference, or NDBIN, contact Quinn at rebecca.quinn@med.UND.edu or (701) 777-5200.

By Brenda Haugen



THE BIOMARKERS OF CONCUSSIONS

Researchers across departments at UND explore the physiology of concussions

In front of a collection of athletic training students, Steve Westereng, LAT, ATC, MA, CSCS, chair and assistant professor of the UND Department of Sports Medicine, is talking concussions. Rolling up a ball of athletic tape and inserting it into a rubber glove, he inflates the glove and agitates it as students watch the tape-ball bounce about haphazardly in its makeshift cranium.

“Even if your brain is floating in fluid in your skull, do you think it’s fully immune to injury from this type of trauma?” Westereng asks, admitting that the model is something of an exaggeration. “And do you think that just adding a helmet is going to stop that ball from moving in there completely? Not necessarily.”

It is for this simple physiological reason, says Westereng, that so many athletes, parents, and coaches have been concerned about sports-related concussions in the 21st Century.

Hearing these concerns, and seeing protocols come into use at the professional and collegiate levels, North Dakota legislators even took up the cause in 2011, adding a chapter to the North Dakota Century Code (NDCC) entitled “Concussion Management For Athletes and Teacher Support Program.”

In addition to requiring schools and athletics organizations to institute real-time concussion management programs, the legislation provides for concussion education and training for students, parents, coaches, and teachers.

Concussion biomarkers

Legislation notwithstanding, even the most experienced clinician can have difficulty knowing for certain whether or not an athlete has suffered a concussion, says Westereng: “Management programs are good, but because everyone reacts to trauma differently, wading into that realm by setting up strict protocols is complicated not only medically but legally.”

This is why there remains a pressing need to identify a more objective and accurate way for health providers and athletics organizations to determine who has and has not suffered concussion on the field or court.

Wondering if there was a way faculty and researchers at the UND School of Medicine and Health Sciences might contribute to a solution to this problem, Westereng called up his colleague Colin Combs, PhD. Chair and professor with the SMHS Department of Biomedical Sciences, Combs has built

a career studying the mechanisms by which the inflammatory activation of brain cells contributes to neurodegeneration, particularly in the case of Alzheimer's disease.

Westereng shared with Combs a study published last year in the *Journal of Neurotrauma* that explored the possibility of tracking specific biomarkers in athletes who had suffered head trauma to better diagnose concussion—as opposed to relying only on athletes' self-reporting of symptoms.

"I said to Dr. Combs, 'Do you know anything about this?'" Westereng recalls. "And he said, 'Actually, I was looking into that already and wondering if someone here wanted to collaborate.'"

As it turns out, Combs explains, after a blow to the head the blood of concussed patients often registers higher levels of specific proteins. These levels remain elevated even after the patient stops reporting signs or symptoms of concussion, suggesting that the patient may still be in a delicate condition—even "injured" in a potentially serious way—even though she or he has been cleared to play again.

This problem got both researchers thinking and working on developing a study that could be done at UND, not only to give athletic trainers and physicians better diagnostic tools, but to alleviate the problem of return-to-play decisions being reliant on athletes' self-reports.

"A non-invasive blood-based biomarker screening tool would be huge. Such a measure could be incorporated into a standard care practice for athletic trainers and other providers managing concussive injury," Combs continues. "What I imagine we could think about doing at UND is track patients over the course of three or four years with a combination of standard methods, new blood-based methods, careful neuropsychiatric exams, and maybe even EEG in some cases, to try to determine objective biomarkers."

The need is pressing not only for the purposes of diagnosis and treatment, concludes Westereng, but because leagues and schools are increasingly seeing the legal value in improving their treatment of concussion, which results in over two million emergency room visits a year in the U.S. (a figure that does not include the large number of concussive injuries that go unreported or undiagnosed). In other words, the abundance of concussion-related lawsuits pending that target the professional sports leagues, the NFL being only the most obvious example, has spurred state and local governments and amateur athletic organizations to find better ways to protect their athletes' brains and themselves from liability.



“A non-invasive blood-based biomarker screening tool would be huge.”

//// //// COLIN COMBS
PhD

According to Westereng, data from across the nation suggests that parents are starting to limit their kids' participation in at least football, especially at the junior high school level, because of their fear of concussion and chronic traumatic encephalopathy, or CTE.

"As long as we have sports in our culture, we'll have to deal with concussions," concludes Westereng, adding that while athletes have been getting larger and faster on average, it has been difficult determining whether or not there are more concussions now than in the past because of improvements in documenting and assessing concussions. "If you look at the statistics even from UND, back in the 1980s the average football player weighed about 215 pounds. Now, the line is full of 300 pound guys. The average player is up 15 or 20 pounds from what they were in the eighties. That's not insignificant."

By Brian James Schill



“As long as we have sports in our culture, we'll have to deal with concussions.”

//// //// STEVE WESTERENG
LAT, ATC, MA, CSCS



Ron Mack of East Grand Forks works with third-year physical therapy student Carmen Stanhope at the pro-bono physical therapy clinic at the School of Medicine & Health Sciences.

/// SERVING AND LEARNING **PRO BONO**

UND Physical Therapy clinic serves the community while providing students the best training in the business

When Ron Mack of East Grand Forks had a stroke several years ago, he needed more physical therapy than his insurance provided.

He found help at UND's pro bono physical therapy clinic, where students worked with Mack to improve his walking and balance.

"They really helped me," Mack said. "That first year after my stroke, getting back into my life was quite an undertaking."

Mack continues coming to the clinic, which is held for eight weeks each fall, for physical therapy.

"We've been working on my balance and strength," Mack said. "This is a good place to go. And I hope the students get something out of it."

They do.

Great experience

"The clinic is a great experience, and a way to put all the skills we've learned to use," said Carmen Stanhope, a third-year PT student from Cavalier, N.D., who had Mack as her patient last fall. "It's very intimidating at first to work with patients, and it was great to see how much Ron improved."

The clinic is held in the physical therapy lab at the new UND School of Medicine & Health Sciences.

“We involve the community with student learning,” said Meridee Danks, assistant professor of physical therapy. “It’s a win-win for students and clients. We serve patients who would like to continue with therapy but don’t qualify for insurance. The patients like interacting with students and see physical and social benefits, and students love working with real patients.”

Since 1998, the clinic has put UND’s mission of teaching, service, and research into action. Located in a new spacious, light-filled lab at the School of Medicine & Health Sciences, the clinic gives students experience with patients while supervised by faculty, helps patients be more mobile, and also offers research opportunities for faculty.

“The clinic helps students get ready for clinicals, interact with community members, and provides services you can’t get elsewhere,” said Cindy Flom-Meland, associate professor of physical therapy and director of clinical education for the department. The clinic, which doesn’t compete with other health care providers, serves patients without health insurance or whose benefits have run out. Patients are often referred to the clinic by other providers.

Patients become teachers

“Patients have been coming back since we started the program,” said Flom-Meland. “They become fantastic teachers and enjoy working with the students.”

Clients have neurologic diagnoses that can include stroke, multiple sclerosis, traumatic brain injuries, cerebral palsy, Parkinson’s disease, and spinal cord injuries. Clients range in age from 20 to 80.

“We provide therapy to help clients be active and reach their goals, and hopefully we have a positive effect on their quality of life,” said Flom-Meland.

The clinic also brings research into play.

“From a medical standpoint, we need to be able to prove that what we’re doing is effective,” Flom-Meland said. “UND physical therapy students have the opportunity to learn about and take part in research.” Faculty and students have worked with other departments on campus, presented their research at national conferences, and also invite physical therapist assistant students from Northland Community & Technical College in East Grand Forks to take part in the clinic. “We’ve had fabulous results, and students learn to interact with different professions,” she said.



Michael Miller and Carmen Stanhope work with Ron Mack to improve his balance. Students are supervised by Cindy Flom-Meland, associate professor of physical therapy.

Rewarding interaction

“It’s rewarding to see the interaction that occurs,” said Danks.

“The experience of communicating with someone after they have had a stroke or who is older than the student is invaluable. You can’t teach that. This is experience we can’t provide any other way.”

“I was always learning,” said Michael Miller, a third-year PT student from Dickinson, N.D., who worked in the clinic last semester. “I learned to help patients modify activities and to try different things to help them overcome challenging hurdles, such as gait problems. By the end, we had grown pretty close, and it was bittersweet to see them for the last time.”

“This is an excellent integration of education with community service,” said Dave Relling, associate professor and chair of physical therapy, adding that the department is celebrating its 50th anniversary this year.

Relling said the department is active in the Grand Forks community, and students and faculty volunteer for programs such as Bone Builders at the Grand Forks Senior Center, Rock Steady Boxing at the YMCA for patients with Parkinson’s, Spin for Kids, and the Stepping On senior fall prevention program by NDSU Extension and Altru Health System.

“This is a good place to go,” said Mack. “The students work very well with me, and all the ‘toys’ help a lot as I get better. And I want to be of help to them as they learn.”

By Jan Orvik

FROM HEREDITY TO REMEDY

UND and the Lieber Institute for Brain Development partner to expand the world's largest brain repository for the study of brain disorders affecting the genomes unique to North Dakota

Decades ago, more than a few physicians were convinced their African American patients were less compliant, relative to their Caucasian counterparts, with taking the medications they had been prescribed. Analyses of blood draws from patients of all backgrounds consistently showed that the level of medication present in patients' bodies was typically lower in African Americans than other groups; researchers simply assumed that this patient cohort was less diligent in keeping up their drug regimen and, by extension, their overall health.

Shaking his head at this idea today, Thomas M. Hyde, MD, PhD, recalls with frustration how such predispositions made their way into several peer-reviewed studies of medication compliance in persons of different backgrounds.

"But as it turns out, these folks weren't less compliant—they had a much higher incidence of a particular variant of one of the enzymes that *degrades* this or that drug," explains Hyde. "They had lower levels of the drug in their system because they metabolized it faster for genetic reasons."

Indeed, says Hyde, sometimes societal presumptions "serve us poorly when we're trying to understand the success or failure of treatments among different ethnicities."

Studying genetic differences in the brain

As Chief Medical Officer of the Lieber Institute for Brain

Development (LIBD), a not-for-profit institution affiliated with the Johns Hopkins University in Baltimore, Hyde sees it as his mission to combat such prejudices with science. This is part of the reason why LIBD began collecting brain tissue samples in 2011 with the intent of studying how genetic differences between populations affect the development and *treatment* of mental illness.

Beginning with a focus on schizophrenia, and expanding to conditions like depression and PTSD, for the past seven years LIBD has dedicated itself to finding new targets for the treatment of complex behavioral disorders, which are often connected to genetics in one or more ways.

But because Hyde can't fight the good fight alone, he has been tireless in working to develop partnerships with research institutions across the country that also focus on such conditions.

One such institution is the University of North Dakota School of Medicine and Health Sciences (SMHS).

Late last year LIBD, which manages the largest Human Brain Repository in the world, and the UND SMHS announced a partnership—the fourth of its kind—to enlarge the repository, allowing researchers to accelerate the rate and volume of brain tissue collection.



“By collaborating directly with world leaders in neuroscience through the Lieber Institute, we can expand greatly our clinical translational research programs and bring a new level of excellence and opportunity to the region.”

////// MARY ANN SENS
MD, PhD

“We’re thrilled to embark on this partnership with the LIBD, which will give persons from North Dakota and the upper-Midwest a chance to participate in the exciting research of brain development and function already ongoing elsewhere in the country,” noted Mary Ann Sens, MD, PhD, professor and chair of the SMHS Department of Pathology, who is spearheading the tissue collection effort at UND. “Many local families are concerned with a wide variety of mental disorders in loved ones and within this community, including things like post-traumatic stress disorder and depression. By collaborating directly with world leaders in neuroscience through the Lieber Institute, we can expand greatly our clinical translational research programs and bring a new level of excellence and opportunity to the region.”

This new collaboration will increase the diversity of brain samples collected nationally, says Dr. Sens, offering researchers the opportunity to expand the study of neurological and cognitive disorders across the unique genomes that make up the population in North Dakota and the surrounding region.

“We were attracted to North Dakota because you have a large Scandinavian population and a large Native American population, both of which have dealt with a lot of things like addiction and depression,” Hyde told *North Dakota Medicine* in a sit-down interview at the School. “And you have a large veteran and active-duty military population in North Dakota. We’re heavily invested in PTSD research as well, so we’re in desperate need of tissues to help us understand the biology of this illness. We’re already working with the Department of Defense and the VA to develop new drug targets for the more effective treatment of this disorder.”

The process

So how does the tissue acquisition process work? According to Hyde, establishing a relationship with a regional Medical Examiner (ME) is a vital first step.

“When someone arrives at the ME’s office for an autopsy, if the deceased person’s brain is in good condition and fits one of our diagnostic criteria—he or she was either a relatively healthy individual or someone with a major psychiatric disease or addiction—we contact next of kin. We talk to them about the donation process and get their informed consent.”

If consent is confirmed, LIBD works with the partner institution and county Medical Examiner—Dr. Sens in UND’s case—to perform an autopsy on the deceased person, gathering brain biopsy material for preservation and study.

“We are on the leading edge of applying advanced population genetics to human brain tissue for the advancement of



Dr. Hyde (foreground) in the LIBD laboratory in Baltimore as research assistant James Weiss looks on.

medical science,” concluded Hyde, who hopes LIBD might further partner with the SMHS to provide graduate and medical students opportunities to conduct research at the LIBD facility in Baltimore. “Together, researchers across the country are utilizing this tremendous network of institutions to discover novel drug treatments and prevention strategies for neurological disease for persons of different backgrounds.”

Since opening in 2011, the LIBD has acquired over 2,200 brain samples for conducting research critical to understanding brain pathology. With collection sites in Maryland, Michigan, and California, the repository continues to grow at a rate upwards of 500 new cases per year.

“Our values of service and respect for families are paramount with this collaboration, which assures that our state is represented in vital neuroscience research into the complex areas of mental health, post-traumatic stress, autism, and a host of other complex diseases,” Dr. Sens concluded. “We’re honored to participate.”

By Brian James Schill

PROJECT ECHO: CHANGING NORTH DAKOTA FAST

The SMHS works with key partners to facilitate shared learning between rural primary care teams and regional specialists in the treatment of opioid use disorder

It was Dr. Curt Small's turn to talk. He and two family medicine residents from the Minot-Williston rural training track appeared crystal clear on the screen as they spoke via video conference from CHI St. Alexius in Williston, North Dakota. The trio was joining a bimonthly video conference called Project ECHO to share their experience about a patient case involving opioid use disorder, and to contribute to finding better ways to treat this patient and others like him in rural North Dakota communities.

Project ECHO, or Extension for Community Healthcare Outcomes, is a "hub and spoke" model used internationally to equip community providers with knowledge, information, and resources from both specialist providers and their own peers using easily accessible video conferencing technology. Although developed in 2003 by the University of New Mexico School of Medicine as a tool to combat hepatitis C, Project ECHO has expanded around the world, helping clinicians—and rural care teams in particular—manage more than 65 complex health conditions better.

North Dakota launched its version of Project ECHO, which is administered by the North Dakota Department of Human Services (NDDHS), in the fall of 2017 by way of a State Targeted Response grant from the federal Department of Health and Human Services. The project is a collaboration of the UND School of Medicine and Health Sciences (SMHS) Center for Rural Health and Departments of Family and Community Medicine and Psychiatry and Behavioral Sciences, Blue Cross Blue Shield of North Dakota (BCBSND), and the NDDHS. Project ECHO specifically addresses the opioid epidemic in North Dakota by connecting specialists at academic or specialty health center "hub sites" with community-based primary care teams at "spoke sites" using video technology.

Lisa Faust, MD, senior medical director for Behavioral Health at BCBSND, is a key Project ECHO partner. She says North Dakota's rural geography creates unique challenges for access to care in the state.

"Our providers are in great need of training, tools, and support for patients who present in their offices, emergency departments, and hospitals with opioid use disorders," she said. "Project ECHO allows providers access to addiction specialists for real-time practice supports without time away from clinical practice."

The Center for Rural Health facilitates teleECHO video sessions twice monthly. During each session, specialist clinicians from BrightView Health in Cincinnati, Ohio, a comprehensive outpatient addiction treatment facility, deliver a brief didactic presentation on a relevant opioid-related topic. Additional North Dakota health professionals, who are subject matter experts, also participate on the hub team. The remainder of the session is devoted to case presentations from rural North Dakota clinicians, such as Dr. Small. De-identified case-based learning, feedback, input, and guided practice tips are shared among specialist providers, subject matter experts, and clinical peers on the call.

During his case presentation, Dr. Small and his residents shared an encounter with a patient complaining of chronic pain and trouble sleeping. The resident physician checked the prescription drug monitoring program during that particular visit in order to review any history of opioid prescriptions for the patient. By participating in the teleECHO clinic, Dr. Small and his residents, as well as everyone on the call, could learn from peers at the spoke sites and query expert clinicians at the hub sites for advice and guidance on how to improve patient care in similar situations.



Dr. David Schmitz participates in a Project ECHO video conference with nearly 20 other providers from across the country.

Subject matter experts, including Faust and Andrew McLean, MD, clinical professor and chair of the Department of Psychiatry and Behavioral Science at the UND SMHS, moderated the discussion between Small, the specialist from BrightView, and the spoke sites in North Dakota. This group discussed use of a particular tool, the screening brief intervention and referral to treatment (SBIRT), to help clinicians evaluate a patient with potential substance abuse issues.

Conference call contributors also offered examples of statements they have used during patient visits to encourage discussion of certain concerning behaviors and to engage patients better. David Schmitz, MD, professor and chair of the Department of Family and Community Medicine at the SMHS, says Project ECHO is like the “teach a person to fish” analogy.

“Healthcare providers are learning about new screening tools they can apply immediately to their local practice,” Dr. Schmitz said. “It will be an ongoing goal of Project ECHO to empower and connect our local health care teams to approach treatment in a well-informed manner. The project is designed to ‘raise all boats’ for the betterment of health in our rural and underserved communities.”

McLean and Schmitz are co-medical directors for Project ECHO. They agree that embracing technology to offer immediate support to front-line clinicians also reduces feelings of isolation among rural providers.

“A major benefit of the teleECHO clinics is access to a multidisciplinary group of experts and peers in one virtual spot at one time,” Dr. McLean added. “While practitioners have had access to online medical information for years, the use of teleECHO clinics provides relevant best practice education, discussion, and linkages in an efficient manner.”

After presenting his case during the teleECHO clinic, Dr. Small said he is grateful to have access to this type of learning environment, and that his resident physicians will carry the experience forward into their own future practices as well.

“This has been a really good way to bring expertise to the physicians working far away from the addiction experts. We have not had any contact with these specialists before Project ECHO,” he said.

Dr. Small says he gained a tool from Project ECHO that he will be implementing in his clinic to better serve his patients.

“After discussing my case study, we learned about the value of doing the SBIRT style of evaluation and referral, and that there are opioid dependence tools to use to evaluate the severity of the problem,” he said. “There are many parts to this problem. But we realize that the problem is not going away and this program is designed to show us ways we can start addressing it more effectively in our community.”

For more information about Project ECHO, visit ruralhealth.UND.edu/projects/project-echo

By Stacy Kusler

THE ECSTASY AND THE AGONY

SMHS researchers take on PTSD, anxiety, and depression through less conventional means

The headline was intended to be provocative: “The Promise of Ecstasy for PTSD.”

In a November 2017 op-ed, the *New York Times* reported on the FDA’s approval of a pair of final-stage clinical trials involving the use of the drug MDMA—commonly known as “ecstasy”—for the treatment of mental illness.

The move, which allows physicians and researchers more access to the “club drug” for studying the treatment of PTSD and other mental disorders, came six years after a seminal study found that ecstasy use reduced PTSD symptoms in patients nearly four times better than traditional antidepressants or psychotherapy alone.

“In a clinical setting—that sort of result is unheard of,” muses Keith Henry, PhD, of the 2011 paper that appeared in the *Journal of Psychopharmacology*. “We never see that sort of separation.”

An associate professor in the Department of Biomedical Sciences at UND’s School of Medicine and Health Sciences (SMHS), Henry himself has spent years studying how, where, and why a series of chemical compounds—antidepressants, amphetamines, and, yes, ecstasy—bind to the proteins in the brain that transport serotonin and dopamine back into the neuron after it has been released in response to stimuli. He considers the FDA’s ecstasy decision vital to advancing the pharmacological treatment of a variety of mental illnesses in America and around the globe.

“Because of how similar PTSD, anxiety, and depression are, it’s not unreasonable that researchers would begin to explore how ecstasy could be applied to the treatment of those disorders as well. Something that was taboo for decades has now seen a resurgence,” Henry says, noting that case reports indicate psychiatrists had administered ecstasy as an adjunct to psychotherapy long before the drug’s criminalization in 1985.

The Science of Addiction

Since most of the antidepressants on the market are selective serotonin re-uptake inhibitors (SSRIs), which *increase* serotonin levels in the brain, they produce many negative side effects in patients, including weight gain and the loss of affect or emotional “flatness.” Furthermore, such pharmaceuticals tend to help only about half of patients who take them.

But ecstasy is different.

“We already have drugs that block serotonin re-uptake,” Henry notes from his office on the second floor of the SMHS in Grand Forks. “What we’re looking to help develop are drugs that may not block these chemicals but instead *modulate* the serotonin slightly without blocking its activity entirely. That’d be a better outcome for the patient in that he or she is likely to experience fewer side effects, and perhaps better relief of symptoms.”

While the mechanism of addiction is complicated, generally speaking, drugs like methamphetamine tell neurons to release the chemicals in question (serotonin, dopamine) but reverse the transportation of those chemicals and even block their “re-uptake” by the brain, resulting in a huge, non-physiological release of chemicals that give the drug user a quick, strong sense of pleasure and contentedness.

Addictions to many of these compounds emerge because they activate the reward center of the brain to associate these feelings with this chemical mechanism. In time, the cells themselves begin to tolerate the influx of excess neurotransmitters and adapt their function in a way that soon expects the routine presence of these compounds. So it is that a body deprived of elevated levels of serotonin, for example, will come to suffer both physical and neurological symptoms associated with the drugs’ absence, including anxiety, insomnia, diarrhea, and widespread physical discomfort.

But, again, ecstasy—a type of amphetamine known as an entactogen—is different.

Although MDMA can be dangerous in large amounts or in combination with other pharmaceuticals, it is far less addictive than methamphetamine.

“There is a lot less happening in terms of neuronal loss and cognitive decline with MDMA relative to methamphetamine, especially in the clinical setting at small, therapeutic doses,” Henry summarizes. “Most importantly, MDMA doesn’t activate the brain’s reward pathway like methamphetamine does. And since we have evidence that serotonin and ecstasy bind to the cellular transporter differently, we’re now trying to leverage those differences to see if there is a path toward the development of new pharmaceuticals. This may have the potential to give people their lives back.”

Basic Science First

Before researchers doing this clinical translational science can wade into the development of a novel pharmaceutical that gives back lives, though, Henry and researchers like him have a lot of work to do.

Such work includes determining, primarily through cross-species studies, how adjustments in the same proteins in different species result in different physiological outcomes.

Referencing a study recently published by Henry and one of his colleagues at Purdue University, Henry notes that while the human serotonin transporter can transport ecstasy, the fruit fly serotonin transporter cannot. By studying the genetic differences between humans and fruit flies that generate such variances, researchers are investigating how they might develop compounds that take advantage of such molecular insights in order to block drugs like methamphetamine while sparing the normal function of these brain transporters.

“This helps us focus our efforts,” Henry says. “By changing one amino acid out of 630 we were able to reverse the biochemical properties of these transporters. That mutation we made affects ecstasy, but has no impact on serotonin. This could be a foundational observation in therapeutic development. But, what does that mean and what could it mean? Those are the types of questions we’re exploring.”

Noting that his team’s research on MDMA and serotonin is at a crossroads, Henry has been pleased to see both the medical community’s and patients’ change in perception of ecstasy from being a drug of abuse to being a potential breakthrough treatment for mental illness.

“This elevates our research,” Henry concludes with a smile. “It’s exciting to think that this research has the potential to make a major difference in the lives of millions of people suffering from these mental illnesses.”



Keith Henry, PhD, in his office at the UND School of Medicine and Health Sciences.

By Brian James Schill

RECRUIT AND RETAIN

“Once we get candidates here, we tend to be very successful in keeping them here,” notes Shiraz Hyder, MD, vice president and chief medical officer at CHI St. Alexius Medical Center in Bismarck. “The challenge is convincing them to come out to North Dakota for an interview.”

Dr. Hyder is discussing an issue familiar to many hospitals and clinics in the upper-Midwest: recruitment and retention of physicians. Although the issue affects all providers to some degree, North Dakota especially has struggled with recruiting and retaining physicians and other health care providers, particularly those from out-of-state, for many reasons—the weather being only the most obvious.

“The movie *Fargo* didn’t help us any,” he laughs.

But over the last several years, a program Dr. Hyder developed has gone a long way toward helping his facility train and keep more physicians in-state, hospitalists in particular.

As part of the state’s Healthcare Workforce Initiative (HWI), Dr. Hyder, a neurologist by training, proposed a fellowship program in 2011 aimed at recruiting hospitalists—physicians who practice *only* in hospitals and take care of in-patient admissions—to Bismarck. Seven years later, the program has exceeded even Dr. Hyder’s expectations; an article he published in the medical journal *WMJ* late last year notes that from 2012 to 2017 this Hospitalist Fellowship Program has kept over 60 percent of its recruits in-state to practice clinical medicine.

Although the reasons that influence a person’s decision to stay or leave any community are multiple and complex, Dr. Hyder attributes part of the program’s success to the people of North Dakota: “Once the fellows come here they see that while the weather can be cold, the people are warm—that the communities in North Dakota are very nice, safe, and welcoming.”

But it’s not only the people in North Dakota; the access new physicians have to academic medicine via the program’s sponsor, UND’s School of Medicine and Health Sciences, provides recruits with another incentive.

“This elective rotation in a tertiary care facility allows physicians working in Critical Access Hospitals to maintain their skills in managing complex medical patients, interact with multiple specialists, and stay in touch academically through teaching fellows, residents, and medical students,”

writes Dr. Hyder and his co-author Mary Amundson (the retired former director of the SMHS Office of Primary Care in the Department of Family and Community Medicine). “Fellows are invited to participate in physician leadership education and training opportunities such as those available through the American College of Physician Executives



Shiraz Hyder, MD

[and] are also eligible to apply for clinical faculty status at the UND SMHS with the opportunity to access the university’s library and other resources.”

Since the program was created in 2012, 84 physicians have applied for 13 fellowships. Of the 11 fellows who have completed the program, 64 percent (7/11) remained in North Dakota to practice.

Such an outcome, says SMHS Dean Joshua Wynne, MD, MBA, MPH, is exactly what the School hoped to see when it signed on to Dr. Hyder’s HWI-affiliated program.

“Congratulations are certainly in order to Dr. Hyder and St. A’s, not only for the success of the program, but also for analyzing their data and sharing their results so others might learn from their findings,” Dr. Wynne noted. “By designing and managing a successful program that benefits the people of North Dakota, relying on data analytics to evaluate the program, and sharing their findings with others by publishing a scholarly article, Dr. Hyder and Ms. Amundson are to be triply congratulated.”

Grateful for the support he has received from the SMHS, Dr. Hyder concludes by noting that the hospitalist program’s success, which has helped improve state medical services even outside of the Bismarck metro area, allowed him to make the case for starting up a similar fellowship program in geriatric medicine.

“We’re in the top ten states in the country for the percentage of citizens over age 85,” he added. “So our next target is the group of physicians specializing in elder care. We hope to see similar results in that specialty area, which would be huge for North Dakota.”

By Brian James Schill

PATIENT-CENTERED MEDICINE

If you or your child had appendicitis, would you choose surgery or antibiotics for treatment? Why?

Such is the scenario that Marc D. Basson, MD, PhD, MBA, FACS, senior associate dean for medicine and research at the UND School of Medicine and Health Sciences (SMHS), presented to nearly 2,000 participants in a research study published in January by the medical journal *JAMA Surgery*.

According to Dr. Basson, most patients know that the traditional treatment for appendicitis is appendectomy, or surgical removal of the appendix. And although antibiotic treatment for appendicitis is emerging as an alternative to surgery, disadvantages of antibiotic-only therapy for appendicitis—which include longer hospitalization, prolonged recovery, and a higher rate of appendicitis recurrence—mean that some surgeons resist offering patients non-surgical treatment options.

For this reason, Dr. Basson went straight to patients in an effort to gauge patient knowledge and attitudes toward the use of antibiotics for appendicitis.

“We decided to come at the question differently, asking, ‘Well, what do patients actually want and why?’” explains Dr. Basson, whose co-authors were Ross Crosby, PhD, vice president for research and director of biomedical statistics at the Neuropsychiatric Research Institute in Fargo, N.D., and professor in the UND SMHS Department of Psychiatry and Behavioral Science; and Alexis Hanson, a third-year medical student at UND.



“Well, what do patients actually want and why?”

////// **MARC D. BASSON**
MD, PhD, MBA, FACS

Dr. Marc Basson publishes an article in *JAMA Surgery* on what patients want in appendicitis treatment

As it turns out, a commanding 86 percent of the 1,728 survey participants would choose laparoscopic appendectomy (a less invasive type of surgery) for themselves and their children in such a scenario. Comparatively, 9.4 percent of respondents would choose antibiotics alone, and only 5 percent a traditional open appendectomy.

“What’s interesting is that we took a subgroup of that 86 percent surgery-first cohort and asked what their concerns were with antibiotics,” Dr. Basson continues. “We asked them ‘What would get you to change?’ We found that the failure rate of the drugs was the primary problem. But when we reset those numbers—asking their response if the antibiotic failure rate was lowered by 5 percent, 10 percent, and so on—we saw a lot more people willing to choose antibiotics over surgery.”

So Dr. Basson’s team explored not only what patients know when it comes to their treatment options, but what they value—and how their values influence their decision-making process.

“This, we believe, should set the research agenda for the future in this area. If we could come up with a new way of reducing the failure rate of antibiotics, that might result in a lot more people choosing antibiotic therapy, which would be a huge advance in the field.”

The full version of Dr. Basson’s article is available online at: jamanetwork.com/journals/jamasurgery/fullarticle/2668469.

By Brian James Schill



EVERYTHING IS INTERESTING

Thanks for your time, Emily. So, you're just coming out of a lecture on radiology?

Yes, we're just starting the third block of the year. I almost said "second," but wow—the time is going so fast. I only have one more block after this and then I'll be off to Hettinger.

For one of the School's rural medicine clinical rotations, I assume. Is that where you hope to end up third and fourth year?

Correct. I'll be in Bismarck third and fourth year. I'll be doing the ROME [Rural Opportunities in Medical Education] program for six months, which means I'll be in Hettinger, N.D. Then I'll go to Bismarck.

Which is where you grew up, yes? How did you end up at the UND School of Medicine and Health Sciences?

I'm originally from Kurdistan [northern Iraq] and moved to the U.S. when I was five—to Bismarck. I grew up there before going to college at the University of Minnesota – Duluth where I studied chemical engineering and Hispanic Studies. My mom and I left Iraq in 1997. I lived in Guam on the army base there for nine months with her before we came to North Dakota in November 1997—during a really bad winter storm. My mom told me that when she stepped off the plane she thought the pilots had lied to her—she thought we were in Russia or something [laughs]. You know how on television the images of America are all tall buildings and sunshine... But there were no tall buildings and all this snow around and she wasn't sure this was really the United States.

Not an uncommon reaction for out-of-state folks, wherever they're from, I suppose. Have you been back to Iraq?

I've been back to visit family twice, which was really nice. It has changed a lot. I don't remember too much about my years there as a child. I must have blocked some of those memories—the process of coming here was stressful. For example, as we tried to leave we were held in Turkey for a few days in what I remember as basically a dungeon before we were allowed to continue. It was hard on my mom, who was only 24 at the time, so maybe it's better that I don't remember much of that time.



What was the transition like for you—Iraq to Bismarck—as a young person?

When I came here, I didn't know any English, but I learned it in kindergarten and after. I knew more than my family, though, so both for my mom and when my grandma, two aunts, and three uncles came, I was basically an interpreter for them at age six, seven. I would read the letters we got in the mail to my mom, who was working a housekeeping job by then. And when anyone in my family went to the doctor I went along and would do most of the talking. When I was still in high school in Bismarck I'd take my grandma to the hospital all the time and translate for her. She had cataracts and macular degeneration, and I got to go into her surgeries with her as her interpreter. My mom can do that for her now, but for a long time it was on me.

Second-year medical student and Kurdistan native Emily Shawkat sits down with North Dakota Medicine on a cold January afternoon in Grand Forks to talk medicine, migration, and multicultural education

Do you have a sense of whether the physicians you spoke with at the time were able to clarify some complex health issues to a child who then needed to tell another adult the same thing in a different language?

It was difficult. But we typically went to the UND Family Medicine Center in Bismarck. And I still remember that the doctors there were all so good. They were all so nice there and that's part of why I became interested in medicine. My family still goes there—the physicians and nurses all know our family and remember when I first showed up there as a five year-old. Everyone there was very friendly.

Which is why you'd love to go back as a physician, I imagine. But help me understand how you went from chemical engineering to medicine.

Right. Chemical engineering has a lot of overlap with chemistry, of course, so I was required to take a lot of those typically “pre-medicine” courses—organic chemistry, and so on. I also took the biology classes because at the time I was thinking of getting a master's degree in biomedical engineering. I took a tour of Medtronic in Minneapolis, which was fascinating—getting to see how the scientists there study the body and can develop these medical instruments or devices. But that path seemed to be lacking that patient-contact angle that I had grown to love from being in the clinic with my family, volunteering at the hospital, and working as a CNA. I wanted that sort of thing, which is why I ultimately went toward medicine.

Is that to suggest that the specialty you have in mind is one that would involve more face-to-face patient care?

Yes. The radiologist today was super interesting, but you don't see a lot of patients in-person there. I really like family medicine, but I also like pathology. I'm really struggling with which path to take. Everything is interesting!

A good problem to have. Has your family played much of a role in influencing you in one direction or the other?

Not really. They've just been very supportive, no matter what. My mom, since I was young, has stressed education for me. She worked three jobs—with no high school diploma and little English—to support me. I saw how tired she was from working so hard all the time to help me be able to go to college. She just told me “Education, education, education,” so she was happy with whatever I wanted to do.

You helped your family with the transition to American culture, but you came to the USA before the war between the U.S. and Iraq generated a number of Iraqi refugees ending up in the United States, and before there was much of an Iraqi-American community in this state. Has that community grown in Bismarck or have you had much contact with the new American community in North Dakota, and Iraqis in particular?

Yeah. When I was in Bismarck, we did have some Iraqis arrive as refugees, and one of the families had a few girls close to my age, so I helped those girls with school, with getting around. The cultures are very different, obviously, so I talked to them a lot, helped these girls with applying to college, applying for jobs. I didn't do much of that sort of thing [in Duluth], but when I got to Grand Forks I got in touch with the Global Friends Coalition and started tutoring new American students at Red River High School. I was actually there yesterday for three hours. It reenergizes me—it's fun! It's nice to be able to help these kids whose parents maybe can't help them with homework in an American school because of language differences. I know how hard it is when you go home with questions but can't ask your parents for help.

And you've brought that energy back to this School—founding a monthly multicultural club for medical students?

Yes. The idea there is to bring in people of different backgrounds to share their cultural traditions with medical students who might not have been exposed to those traditions yet. For example, it's common for many women from the Middle East not to make eye contact or shake hands with doctors, men especially. I'm hoping to help young physicians understand better that such behaviors are not meant as disrespect, but are just part of a different cultural tradition that physicians should be familiar with.

POETRY BY KAITLYN LENGENFELDER, MSII



Ed. Note: As the Hippocratic Oath reminds us, “there is an art to medicine.” This is why NDM makes an effort to address the “medical humanities” by including, where appropriate and when available, student submissions of written and visual art.

“Three Sides to Each Person”

There are three sides to each person, and this good healers know;
Physical for actions, mental for thoughts, and spirit to manifest soul.
Heal just the physical, and actions can be performed,
But they remain meaningless, perfect but deformed.
Heal just the mental, and although your head be clear,
Your dreams cannot come to fruition, your focus poorly steered.
Heal just the spirit, and yes, there will be purpose and mission,
But it will be forced to remain idle, as thoughts lack the force of conviction.
The wholeness of the person is the true physician’s call;
Mending pieces from all angles whether your patients recognize now, later, or not at all.

“In My Darkest Hour”

In my darkest hour, my mind cannot find the right words for me to explain my truth.
In my darkest hour, anxiety builds up towards questions to which there is no answer.
In my darkest hour, painful memories tie me up and cast me down.
In my darkest hour, lies pluck at my dignity and worth until there is nothing left.
In my darkest hour, irrationality becomes my reality.
In my darkest hour, everything good is distorted and mangled.
In my darkest hour, it’s should’ve, could’ve, would’ve, and what if?
In my darkest hour, nothing I’ve ever done and nothing I am going to do matter.
In my darkest hour, exhaustion throws the first blow, and despair finishes the job.
In my darkest hour, every emotion bursts from my body in the form of tears and trembling.
In my darkest hour, my calling is a curse.
In my darkest hour, nothing is safe, I am susceptible to every infection.
In my darkest hour, love doesn’t exist, goodness is painful.
In my darkest hour, I am convinced the enemy has won.
But I am not my darkest hour, and that darkness only made my light that much brighter.
In the light, my truth is that I have overcome the unthinkable. I was strong and resilient.
In the light, the answers don’t matter. If my intentions are ordered, things will fall into place.
In the light, I can acknowledge the pain of the past, and use its momentum to fight for my future.
In the light, I realize that no matter what happens, my dignity and worth remain.
In the light, irrationality runs in fear, and even if reality be hard to accept, at least it is solid ground.
In the light, goodness is in plain view, and moves my soul.
In the light, it’s the game of I can, I will, I did.
In the light, everything I did was not for nothing, and everything I do to my best ability.
In the light, I don’t let exhaustion and despair bully me.
In the light, I accept my emotions for what they are and how they prompt me.
In the light, my calling can be fulfilled only by me. I am a unique piece to the world’s puzzle.
In the light, I laugh at fear and allow insignificance to slide off me like rain on a window pane.
In the light, love is everywhere, and goodness can be found in the smallest details.
In the light, I realize the enemy was conquered long ago, and that it has no hold on me.
Again, I will exclaim, I am not my darkest hour, and that darkness only made my light that much brighter.

■ '50s

John A. Linfoot, BSMed '55, Endocrinologist and Nuclear Medicine Specialist at the Diabetes and Endocrine Institute, has been named a 2017 Top Doctor in Lafayette, Calif. The Top Doctor Awards organization is dedicated to selecting and honoring those health care practitioners who have demonstrated clinical excellence while delivering the highest standards of patient care.

■ '60s

Retired psychiatrist, Dr. Christian Hageseth, BSMed '65, was diagnosed with Parkinson's disease in 2012. After exploring the use of exercise and yoga to manage his own symptoms, he created a charity in 2017 to help Parkinson's patients in the developing world, where poverty prevents many from accessing medications. The photo below shows Dr. Hageseth working with patients in rural villages near Jinja, Uganda.



Dr. Christian Hageseth examines a patient in Uganda whose neurological condition is affecting the use of her arms.

■ '70s

Dale Moquist, BSMed '71, was named 2017 Physician Emeritus by the Texas Academy of Family Physicians during the organization's 2017 Annual Session Primary Care Summit in Galveston on Nov. 11. Each year, patients and physicians nominate extraordinary long-serving physicians and a panel of TAFP members chooses one member to distinguish as Physician Emeritus. Moquist is a health educator with National Procedures Institute. He is former faculty at the Memorial Family Practice Residency Program. He served as director for the Wichita Falls Family Practice Residency Program, and also served as faculty at the Family Practice Residency Program of the Brazos Valley.

■ '90s

Monica Mayer, MD '95, has been elected councilwoman to the Mandan, Hidatsa, and Arikara (MHA) Nation Business Council. Councilwoman Mayer represents the residents of North Segment for the Tribal Business Council of the MHA. She is an enrolled member of the MHA Nation. Before she was elected to MHA Business Council, Dr. Mayer was working with the MHA Nation Tribal Health, its Home Health program, and the Chairman's drug and alcohol initiative.

■ '00s

Brooke Solberg, MLS '07, has been named the new chair of the Department of Medical Laboratory Science at the UND School of Medicine and Health Sciences in Grand Forks, N.D. Before her new appointment, Solberg served as associate professor and graduate program coordinator in the department. **For more information on Solberg's appointment, see page 30.**

■ '10s

Matthew Ryba, MPA '17, has joined the Orthopedics Department at May Clinic Health System in Eau Claire, Wis. Previously, Ryba served as a flight paramedic in Marshfield and as an adjunct faculty member at Wisconsin Indianhead Technical College in Rice Lake. He is a member of the American Academy of Physician Assistants.



Monica Mayer, MD



**Brooke Solberg, PhD,
MLS (ASCP)**



Matthew Ryba, MPA

THE BENEFITS OF “YES”

“Once my son was taking note of all the things I was involved in and asked me, ‘Dad, don’t you know how to say ‘no’?’” recalls Robert Hedger, MD, from his home in River Forest, Ill. “I guess the answer to that question was ‘no.’”

The irony is not lost on the Killdeer, N.D., native who entered UND on scholarship in 1957, graduating with a Bachelor of Science in Medicine degree in 1962.

After 40 years as a nephrologist in the Chicagoland area, that openness also resulted in saying yes to the opportunity to establish a scholarship with the UND Alumni Association & Foundation—the Dr. Walt Wasdahl & Dr. Robert & Kay Hedger Scholarship Endowment.

Many SMHS alumni will recognize the name: Walter Wasdahl, MD, was the former chair of UND’s Department of Pathology who “was known for eschewing lectures in favor of hands-on clinical work and getting his students to think for themselves,” as John Vennes put it in his history of the UND School of Medicine and Health Sciences, *North Dakota, Heal Thyself*.

The “plainspoken” Dr. Wasdahl, who died in Grand Forks in 2007, came into the young student’s life during his second year in the BS Med program and was the genesis of his medical career, says Robert, offering him mentoring, encouragement, and timely advice—plus a job sectioning tissue in Dr. Wasdahl’s laboratory.

“Dr. Wasdahl’s dedication to students was remarkable,” Robert explains, smiling at one memory in particular. “We were scheduled to have a test in pathology on the Monday after my fiancée Kay Letnes and I were to be married. Dr. Wasdahl was aware of this and on the Friday before the test he announced in class that because ‘hell hath no fury’ and ‘to get Mr. Hedger off his knees’ the test on Monday would be canceled. That was a true honor for me, seeing faculty show genuine interest in students in that way.”

With Dr. Wasdahl cheering him on and writing a letter of recommendation, the now-Dr. Hedger went on to earn his MD degree from the Bowman Gray School of Medicine (currently the Wake Forest School of Medicine) in North Carolina. After

“YES”

The Dr. Walt Wasdahl & Dr. Robert & Kay Hedger Scholarship Endowment



Kay and Dr. Robert Hedger (BSMed ‘62)

an internship and stint in the U.S. Army, plus a residency and nephrology fellowship at Rush University Medical Center, the Hedgers settled in Illinois, where they have been ever since.

Their wish to honor a mentor aside, Robert and Kay admit to working as a team during these early educational years, remembering the financial challenges that accompanied Robert’s medical education.

“We are well aware of how a timely scholarship enhances a medical student’s ability to secure a future,” Dr. Hedger concludes. “With this knowledge in mind, and with fond memories of the valuable support we received from Dr. Wasdahl, we established the scholarship fund in 2011 to honor not only a special professor, but UND for building a solid foundation for a wonderful future for our family.”

If you would like to contribute, please do so online at UNDalumni.org/smhs.

By Brian James Schill

THANK YOU TO OUR THOUGHTFUL DONORS

who recently gave gifts or made pledges.

Janice, BS MT '68, and Clifford d'Autremont of Rancho Palos Verdes, Calif., continue to support the Janice and Clifford d'Autremont Scholarship Endowment, which provides scholarships to students majoring in Medical Laboratory Science with preference given to students from Oakes, N.D., Janice's hometown.

Duane Glasner, BS Med '59, of Rolla, N.D., continues to support the Dr. Duane D. and Roberta Glasner Medical Scholarship Endowment, which provides scholarships to medical students.

Marc and Linda Nagel, MD '89, of Minneapolis, Minn., continue to support the Linda Well Nagel Scholarship Endowment, which provides scholarships to medical students who wish to do rotations in developing countries or underserved populations in any country.

Donald and Mary Ann Sens of Grand Forks, N.D., continue to support clinical research needs at the School. Mary Ann is chair of the pathology department and Don is professor there.

HOST

The UND School of Medicine and Health Sciences' HOST Program (Housing Our Students as they Travel) aims to utilize its vast alumni network to find complimentary lodging, transportation, meals, or general information for its fourth-year medical students during residency interviews. This year, the following alumni graciously hosted our students:

- Jessica Smith, MD '11, of Fishers, Ind.
- Elizabeth Rau, MD '11, of Delmar, N.Y.

To sign up for the HOST program, visit www.med.UND/alumni-community-relations/host-program.cfm.

Dr. G. Franklin, BS Med '64, and Rosemary Welsh of Cincinnati, Ohio, continue to support the G. Franklin Welsh, MD, Endowment, which provides annual awards to medical students who demonstrate academic excellence through completion of a research project that focuses on anatomical sciences or development of an innovative resource for teaching anatomy.

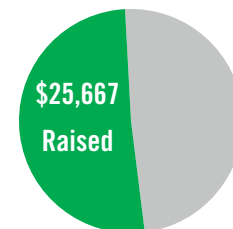
Robert, BS Med '62, and Kay Hedger of Oak Park, Ill., continue to support the Dr. Walter Wasdahl and Dr. Robert and Kay Hedger Endowment, which provides scholarships to medical students who demonstrate financial need. See the Hedgers' story on page 24.

Betty Wold Johnson of Hopewell, N.J., continues to support the Karl Christian Wold MD Medical Library Endowment, which supports Library Resources, and the Katherine Maryann Rasmussen Memorial Scholarship Endowment, which provides scholarships to physician assistant students.

The **Botsford Family Foundation** in Grand Forks, N.D., has established the Botsford Family Foundation Medical Scholarship Endowment, which provides scholarships for medical students. Tom Botsford, son of John and Dawn Botsford of Grand Forks, N.D., earned his Doctor of Medicine degree from UND in 2015. He is currently completing an anesthesiology residency at Cleveland Clinic in Ohio. Dawn is an events coordinator for UND, and John is president of Red River Land Co. in Grand Forks.

Physical Therapy 50th Anniversary Scholarship Endowment

- Our goal: \$50,000
- 51% of our goal has been raised as of Feb 18, 2018



Dave Gregory, '89
Director of Development
701.777.6679
Daveg@UNDfoundation.org



Jessica Sobolik, '02, '17
Director of Alumni & Community Relations
701.777.6048
jessica.sobolik@med.UND.edu



HEART-IN-HAND

The UND School of Medicine and Health Sciences and Dakota Medical Foundation help students take heart in knowing their debt burden just got a bit lighter



SMHS Dean Dr. Joshua Wynne with Brett Johnson, MSII

“At first I was pretty shocked. But my next thought was, ‘How can I thank the donors who made this possible?’” noted Fargo native Brett Johnson with a laugh. A second-year medical student at the UND School of Medicine and Health Sciences (SMHS), Johnson was one of five SMHS students who in February won a \$12,500 scholarship from UND and Dakota Medical Foundation on Giving Hearts Day. “After I won, I was really struck by the generosity of the community. I’m looking forward to the day I can help future students in their education, just as these donors did for me.”

#CountMeUND

Although DMF’s signature Giving Hearts Day fundraising campaign has been around for years, the SMHS scholarship program emerged just this year as part of DMF’s broader #CountMeUND campaign.

Initially conceived as a campaign to give scholarships to two full-time SMHS students enrolled in any of the School’s nine degree-granting programs—doctor of medicine, medical laboratory science, occupational therapy, physical therapy, sports medicine, physician assistant studies, master of public health, and graduate students in the departments of biomedical sciences and clinical and translational science—the program very quickly took on a life of its own.

“I was astounded, quite frankly, at how well-received the initiative was,” said Joshua Wynne, MD, MBA, MPH, dean of the SMHS and vice president for health affairs at UND. “Due to the generosity of the School’s many friends and donors, two scholarships became five, almost overnight. And thanks to the leadership of DMF President Pat Traynor, our School was able to pull in over \$30,000, all of which was matched by DMF for a total of more than \$60,000. That’s a remarkable sum for a first-time event.”

According to Traynor, the process was rather straightforward: Students entered their names into an online form developed by the UND Alumni Association and Foundation on Feb. 8 and then waited to hear if their name was one of those chosen at random by UND the next day. No catch, no fine print, and no purchase required. Donors who gave \$1,000 or more to the SMHS through the DMF website on Giving Hearts Day were offered the chance to win the right to name one of the scholarships.

“We hope this project inspired the young people who signed up for these scholarships to realize that giving is transformative,” added DMF President Pat Traynor. “There’s an almost unlimited potential for engaging alumni to help offset student debt for our future health service providers, which is vital. We don’t ever want money to be a barrier that keeps anyone from entering the health field and serving our state in this way. This money all goes right to students, and that’s very cool.”

Reducing Student Debt

Like her colleague Johnson, third-year physical therapy student Michelle Sanders didn’t know whether or not to believe what she was hearing over the phone.

“When I received the call that my name had been drawn, I did *not* believe it at first. Out of all of the students who entered, how did they ever pick me?!” wrote the Brooten, Minn., native, who is finishing up a clinical rotation at Gillette Children’s Hospital in Maple Grove, Minn. “After it started to sink in, I realized the large impact this scholarship will have on my education and my future. One of my biggest worries as I move forward in life is my student loan debt. This scholarship will have an immense impact on my financial stress, allowing me

to focus on my professional future and development as I finish the PT program, take board exams, and begin my career.”

Lowering all students’ debt has been a priority of SMHS leaders in recent years. In a recent survey administered by the Association of American Medical Colleges (AAMC), graduating medical students cited their “ability to pay off debt” as one of their top concerns entering the medical profession. This concern affects students’ choice of specialization and practice location, which, in turn, has an effect on the physician workforce in the state.

Johnson, who hopes one day to practice internal medicine in North Dakota, echoed both Sanders and the AAMC survey results in recognizing the freedom that a reduced student debt load gives him. “The scholarship really helps alleviate the financial concerns that come with medical school,” he said. “Especially when you start considering possible specialties, it is nice to not worry as much about loan debt.”

By Brian James Schill



L to R: Dr. Wynne with second-year OT student Shelby Wassink and UND Department of Occupational Therapy chair Janet Jedlicka, PhD, OTR/L

SMHS GIVING HEARTS DAY SCHOLARSHIP WINNERS FOR 2018:

Hannah Fiser, a second-year occupational therapy student from Palmer Lake, Colo., winner of the Drs. Don and Mary Ann Sens Giving Hearts Scholarship

Brett Johnson, a second-year medical student from Fargo, N.D., winner of the Drs. Laura and Corey Kroetsch Giving Hearts Scholarship

Erica Nelson, a second-year medical student from Fargo, N.D., winner of the Dr. David and Lola Rognlie Monson Giving Hearts Scholarship

Michelle Sanders, a third-year physical therapy student from Brooten, Minn., winner of the Lunn Family Giving Hearts Scholarship

Shelby Wassink, a second-year occupational therapy student from Hastings, Minn., winner of the Colin and Kumi Combs Giving Hearts Scholarship



UND School of Medicine and Health Sciences building wins design award

The North Dakota Chapter of the American Institute of Architects has given its “Award of Merit” to JLG Architects for the firm’s design of the UND School of Medicine and Health Sciences (SMHS) building. The award was presented to representatives of JLG Architects at the AIA 2017 Annual Awards Program in October 2017.

“The hard work that went into this building is evident, but so are the beautiful and thoughtful design features,” noted Syncopated Architecture founder Serina Calhoun, one of the jurors who evaluated the JLG-designed building for the AIA. “The play with volume to incorporate multiple stories together was masterful. The use of materials that warmed the otherwise sterile environment we all associate with medical facilities was carefully done, including the warm woods at the ceilings and creative patterns in the flooring.”

Founded in Grand Forks, N.D., in 1989, JLG is a 100 percent employee-owned architectural firm with satellite offices in Fargo, N.D., Minneapolis, Minn., and Sioux Falls, S.D.

The new UND School of Medicine and Health Sciences building was completed on time and on budget in 2016. JLG

and its partner firms designed the 325,000 square-foot space to encourage interprofessional collaboration and interaction among students and faculty from all SMHS disciplines. The building’s open floor plan features the state’s largest and most active Simulation Center, a 200-seat auditorium, eight interdisciplinary Learning Communities, several “smart” classrooms and small-group learning rooms, and an open laboratory research space.

“I am delighted with this award, but not surprised,” added Joshua Wynne, MD, MBA, MPH, vice president for health affairs at UND and dean of the SMHS. “The building fully lives up to Winston Churchill’s famous notion that ‘We shape our buildings; thereafter they shape us.’ We designed the building around the concept of a team approach to education, service, and science, and the people who are trained in the building will bring the virtues of team-based patient service and care and team-based science to the people of North Dakota and the region for decades to come.”

Block named associate dean for Administration and Finance at UND School of Medicine and Health Sciences



Laura J. Block, CPA, CFP

Laura J. Block, CPA, CFP, has been named Associate Dean for Administration and Finance (ADAF) and Chief Operating Officer at the UND School of Medicine and Health Sciences (SMHS). The ADAF oversees all non-academic operations and procedures at the SMHS and reports to the Vice President for Health Affairs at UND and Dean of the SMHS, Joshua

Wynne, MD, MBA, MPH.

In her new role, Block will serve as a key member of the Vice President for Health Affairs and Dean’s leadership team; develop and execute administrative and fiscal initiatives to meet the short and long range strategic planning goals of the SMHS and UND; manage the SMHS financial operations and multi-dimensional business operations that involve four regional campuses across the state of North Dakota; and provide direction and oversight of the functional units within the SMHS Office of Administration and Finance.

“I am thrilled by the opportunity to contribute to the already strong team in place at the UND School of Medicine and

Health Sciences,” Block said. “I’ve been watching the School from afar for a long time and have been consistently impressed with what the leadership here has accomplished for UND and the state over the last decade.”

Raised in North Dakota, Block comes to the SMHS from the UND Alumni Association & Foundation where she had been Chief Financial Officer since 2006. She brings with her two decades worth of executive experience in financial management.

She earned her BSBA degree in Accountancy from UND in 1981 and her MBA from UND in 2010.

“We are very excited to have Laura join our senior management team,” added Dr. Wynne. “I’ve known Laura since my first days at UND, and have always respected her integrity, judgement, experience, maturity, and familiarity with the university.

Along with the School’s growth in research funding and the implementation of the Healthcare Workforce Initiative, the School’s biennial budget likely will approach a quarter of a billion dollars in the foreseeable future. That’s a big operation, and I feel relieved that we’ve been able to recruit Laura to oversee our finances and non-academic operations. I know that she’ll do a great job at the School and for UND.”

Sharma wins fifth major NIH award in seven years



Jyotika Sharma, PhD

The National Institutes of Health (NIH) has awarded Jyotika Sharma, PhD, associate professor in the Department of Biomedical Sciences at the UND School of Medicine and Health Sciences (SMHS), a major grant known as an R21. The two-year grant, worth nearly \$400,000, is the fifth such award Sharma has won from the NIH since 2011.

According to Sharma, the long-term goal of her project, titled “Efferocytosis and neutrophil homeostasis in pneumonic sepsis,” is to understand the molecular processes that regulate inflammation associated with sepsis—a systemic, life-threatening condition where the immune system’s response to infection or injury damages a body’s own organs.

Upon infection, specialized white blood cells called neutrophils swarm the site of infection and engulf the virus or bacteria causing the infection. After the infection has been eliminated, these cells die and are cleared out of the body as well, if normal body function is to resume. This “clearing” is achieved by a process called efferocytosis, which prevents tissue damage and promotes tissue repair.

A defective efferocytosis process has been associated with several acute and chronic inflammatory lung diseases, such as sepsis and pneumonia, and is characterized by a condition called neutrophilia (the excessive accumulation of neutrophils). How efferocytosis mediates inflammation and controls neutrophilia at the site of an infection in conditions such as pneumonic sepsis is completely unexplored. Understanding the mechanism of neutrophil efferocytosis is the central goal of Sharma’s latest project.

“We expect that this project will identify a novel function of a specific host factor in mediating efferocytosis, which stops inflammation by clearing out dead and dying cells and can contribute to tissue repair,” Sharma explained. “These studies will guide the development of effective therapeutics not only for a wide array of inflammatory diseases, but also to treat stubborn microbes without introducing the threat of drug resistance.”

In addition to this grant, Sharma’s research is currently supported by an R01, another R21, and a local grant totaling nearly \$2.3 million. She is also a principal investigator (PI) of a multi-PI Centers of Biomedical Research Excellence (CoBRE) grant worth more than \$10 million awarded by the NIH in May 2016 to study host-pathogen interaction for finding new strategies to treat infectious diseases.

Two SMHS-affiliated physicians appointed to the National Quality Forum’s Rural Health Workgroup



David Schmitz, MD

David Schmitz, MD, professor and chair of the Department of Family and Community Medicine at the University of North Dakota School of Medicine and Health Sciences (SMHS), has been appointed the American Academy of Family Physicians’ representative to the National Quality Forum MAP [Measure Applications Partnership] Rural Health Workgroup.



Aaron Garman, MD

Similarly, SMHS graduate Aaron Garman, MD, medical director and family practice physician at Coal Country Community Health Center (CCCHC) in Beulah, N.D., has been named co-chair of the NQF workgroup.

Founded in 1999, the National Quality Forum (NQF) is a not-for-profit, nonpartisan, membership-based organization that works to catalyze improvements in health care. NQF measures and standards serve as a critically important foundation for initiatives to enhance health care value, make patient care safer, and achieve better outcomes. The federal government, states, and private-sector organizations use NQF’s endorsed measures to evaluate performance and share information with patients and their families.

“As a practicing rural family physician, I am very happy that this workgroup was created,” Dr. Garman said. “Rural health care needs metrics that are easily measurable, practical, and important for rural providers and the patients that they serve.”

According to Dr. Schmitz, NQF-endorsed measures are considered the gold standard for health care measurement in the United States. “As health care continues to move toward improving quality and value, having a rural voice from family physicians will help benefit rural people and our communities, right here in North Dakota and across the country,” he added.

A leader in rural health issues, the UND SMHS houses the nationally renowned Center for Rural Health and typically produces twice the percentage of MD graduates entering family medicine—many of whom go on to practice in a rural setting—relative to the national average.

Solberg named chair of Medical Laboratory Science for UND School of Medicine and Health Sciences



Brooke Solberg, PhD

Brooke Solberg, PhD, associate professor and graduate program coordinator in the Department of Medical Laboratory Science (MLS) at the UND School of Medicine and Health Sciences (SMHS), has been named the new chair of the MLS department. Solberg, who has been with UND since 2007, assumed the position long held by Ruth Paur, PhD, on January 1, 2018.

“Dr. Paur established such a strong foundation for MLS at UND over the last several years,” Solberg said. “I am excited for the opportunity to help build upon her success and expand the national reputation this program has earned.”

Among other responsibilities, in her new role Solberg will oversee the department’s budget, program accreditation, curriculum, scholarship, and personnel matters relating to human resources and service. She will also contribute to the mission of the department, School, and University as well as the profession of Medical Laboratory Science, mentoring both undergraduate and graduate students on an ongoing basis. Solberg will report to Tom Mohr, PhD, the School’s associate dean for health sciences.

“I know I speak for the other SMHS department chairs when I say that I look forward to collaborating with Dr. Solberg,” added Mohr. “There is a critical need for Medical Laboratory Science graduates nationwide, and our MLS program is poised to play a major role in building the future lab science workforce for North Dakota and the entire country.”

Solberg is an award-winning educator who earned her master’s degree in Medical Laboratory Science in 2007 and doctoral degree in Teaching & Learning in 2011, both from UND. She is a member of the American Society of Clinical Pathologists and the American Society of Clinical Laboratory Science, and serves on the North Dakota General Education Council.

American Diabetes Association names Dr. Eric Johnson Primary Care Advisory Group chair



Eric Johnson, MD

The American Diabetes Association (ADA) has named Eric L. Johnson, MD, associate professor in the Department of Family and Community Medicine at the University of North Dakota School of Medicine and Health Sciences (SMHS), its Primary Care Advisory Group chair for a three-year term. In this role, Johnson will lead the association’s efforts to develop effective strategies

to engage primary care providers; Dr. Johnson recently completed a three-year term as the group’s vice-chair.

More than 30 million Americans have diabetes, and an additional 86 million American adults have what is considered “prediabetes.” Primary care providers such as Dr. Johnson treat 90 percent of patients with diabetes.

For this reason, Dr. Johnson’s work with the Primary Care Advisory Group has focused on accelerating outreach to primary care providers through several initiatives, including the national one-day Diabetes Is Primary program at the ADA’s scientific sessions.

Dr. Johnson and his colleagues recently developed the association’s abridged version of the Standards of Medical Care in Diabetes. This important document packages the ADA’s annual guidelines into a manageable article for busy primary care providers. Furthermore, he both has been involved in the publication of several articles in professional journals that feature key guidelines from the Standards, and has been appointed to the editorial board of the ADA journal *Clinical Diabetes*.

“Diabetes presents a huge burden to patients, providers, and health care systems,” noted Dr. Johnson, who will help oversee several key initiatives in 2018, including the expansion of the Diabetes Is Primary program to other markets. “Getting the right information into the hands of primary care providers can improve the quality of diabetes management and patients’ quality of life.”

UND School of Medicine and Health Sciences medical students receive scholarships

The University of North Dakota School of Medicine and Health Sciences (SMHS) is pleased to announce that more than \$260,000 in scholarships has been awarded to 84 UND medical students for the 2017–2018 academic year. Funds for the scholarships come from private sources, endowments, and other awards, and have helped the School lower SMHS

medical student debt from well above the national average to below the national average compared with all other U.S. medical schools.

A full list of SMHS scholarships recipients for 2017–2018 can be found online at: med.UND.edu/news/2017

Center for Rural Health to advance palliative care in rural communities

The Center for Rural Health (CRH) at the University of North Dakota School of Medicine and Health Sciences is one of three entities selected by Stratis Health to lead local implementation in a multi-state project to increase access to palliative care services in rural communities. The CRH, which is also the State Office of Rural Health for North Dakota, received \$75,000 from Stratis Health for the 11-month Palliative Care North Dakota Statewide Project. The project aims to build local capacity to cultivate palliative care programs, frame services within emerging payment models, and explore how technology can enhance the quality and efficiency of services.

“We are grateful for this opportunity to improve quality of life and quality of care for people living in rural areas,” said Jody Ward, principal investigator for the CRH project.

Palliative care improves quality of life and quality of care for those with advanced illnesses and complex care needs as well as their families. This whole-person care seeks to relieve pain,

anxiety, and other symptoms, as well as provide emotional and spiritual support, so people can live more comfortably with their illnesses. Studies have shown that palliative care can increase patient satisfaction and reduce 30-day re-hospitalizations and emergency department visits.

“This project will enhance our state’s ability to establish and expand palliative care services in our rural areas,” said Lynette Dickson, associate director of the CRH. “The focus on improving care delivery is so important now. As our rural communities age, the need for palliative care is increasing.”

The three-year project will build skills within the State Offices of Rural Health in North Dakota, Washington, and Wisconsin to expand access to rural community-based palliative care services in these states. Each organization will support the launch of palliative care services in five to eight rural communities in its state.

Arielle Selya wins Early Career Award from UND Division of Research & Economic Development

Arielle Selya, PhD, assistant professor in the Master of Public Health Program at the UND SMHS, has been given an Early Career Award by UND’s Division of Research and Economic Development. The award, which totals more than \$17,000, was given for Selya’s proposal “Are e-cigarettes replacing or expanding conventional cigarette use in youth?” The project examines the impact of the recent and very rapid rise in e-cigarettes among youth.

According to Selya, because the e-cigarette trend is so recent, it’s unclear what its implications are on tobacco use. Some researchers are concerned that e-cigarettes may promote tobacco use among adolescents by getting them “hooked” in the first place, while other researchers argue that e-cigarettes may be a net benefit from a harm reduction point of view because e-cigarettes—though not entirely safe—don’t

have the combustible component that makes cigarettes especially harmful to health.

“One of the difficulties in distinguishing between these two competing theories is that it’s very difficult to account for all of the other risk factors for tobacco use, such as risk-seeking behavior,” Selya said. “In other words, would kids who initiate with e-cigarettes have gone on to smoke conventional cigarettes anyway due to other unrelated risk factors? Or do e-cigarettes increase that risk over and above these other risk factors?”

Selya’s project will analyze data from the National Youth Tobacco Survey since 2011 to determine which of these hypotheses is supported by the data, using an approach that will rigorously account for each person’s propensity for tobacco use, and will test whether e-cigarette use poses an additional risk for conventional smoking.

UND Department of Physician Assistant Studies presents white coats to Class of 2019

Thirty-two University of North Dakota School of Medicine and Health Sciences (SMHS) students began the clinical portion of their studies in January in an effort to earn their Master of Physician Assistant Studies degree.

Welcome remarks at the ceremony were given by SMHS Associate Dean for Health Sciences Tom Mohr, PhD, and UND Vice President for Research and Economic Development and Dean of the School of Graduate Studies Grant McGimpsey, PhD.

“The presentation of the white coat is symbolic of the new profession the students are entering,” said PA Studies chair Jeanie McHugo, PhD, PA-C. “The coats will be worn by students through the clinical phase of their training and denote their involvement with the PA program at UND.”

Seventy-five percent of this PA class is from North Dakota, South Dakota, and Minnesota. Students range in age from 21 to 44 years, with an average age of 30; the class includes 13 men and 19 women. **See a group photo of the PA Class of 2019 on page 34.**

Dr. Francis J. Boyle, Jr., BS Med '53, was born on October 1, 1926, to Francis J. and Marguerite (Morris) in Detroit, Michigan. He graduated from De La Salle High School in Michigan and served in the Navy during World War II in the Medical Corps. Frank earned his Bachelor of Science degree from St. Mary's College in Winona, Minn. He then continued his education at the University of North Dakota and completed his doctorate at Creighton University Medical School. After his internship at St. John's Hospital in Detroit, Mich., Frank practiced in Tracy, Minn., and then in 1958 started his practice in Springfield, Minn. During his time in Springfield, Dr. Boyle served as the Medical Director at St. John Lutheran Home and also was prominent in the development and transition of the Mayo Hospital in Springfield. In 1995, Frank retired from his medical practice. While at St. Mary's College, Frank met Glenna Gervais, who was attending the College of St. Teresa in Winona. The couple was married on November 22, 1951, in Currie, Minn. Frank enjoyed baseball as a younger man and managed both the Tracy and Springfield town teams. Frank was very proud of his Catholic faith, Irish heritage, and his family. Dr. Frank Boyle died on Wednesday, December 6, 2017, at St. John Lutheran Home at the age of 91. He is survived by his wife Glenna of Springfield; children Francis (Beth) of Minneapolis, Minn., Philip (Kris) of St. Cloud, Minn., Patrick (Ellen) of Norfolk, Neb., Michael (Becky) of New Ulm, Minn., Anne (Jack) Kennefick of Edina, Minn., Fr. Stephen Boyle, O. Praem. of Rome, Italy, Jane (Brad) Bechtold of Sauk Rapids, Minn., Jeanne (Jim) Gathje of Bloomington, Minn.; 25 grandchildren and 15 great grandchildren; and siblings Thomas Boyle of California and Peggy Brannigan of Michigan. Frank was preceded in death by his parents and siblings Catherine Colby, Mary Weiss, Eugene Boyle, and John Boyle.

James W. (JB) Butler, BS PT '84, age 56, of Chillicothe passed away on Friday, December 1, 2017, at OSF St. Francis Medical Center in Peoria, Ill. James was born on August 31, 1961, in Minot, N.D., to James and Colleen (Shane) Butler. He married Diane "DeeDee" L. Mooney on November 29, 1986, at St. Edward Catholic Church in Chillicothe. He is survived by his wife, DeeDee Butler of Chillicothe; three sons, Jack (Ali), Colin (Lauren), and Brendan; two grandchildren, Nora and Susie Butler; three sisters, Kathy (Mike) Peterson, Meg Becher, and Jane Butler; and his parents, James and Colleen Butler. He was preceded in death by his brother, Tim Butler. James was a physical therapist for over 20 years with OSF St. Francis Healthcare. James was a parishioner of St. Edward Catholic Church in Chillicothe, where he was a member of the Knights of Columbus Council 8020. He was an athlete and proudly coached his sons in hockey, Chilli Dawgs Wrestling, and St. Edward Soccer. He was a member of the University of North

Dakota Alumni Association. His spirit and personality were larger than life; he knew no strangers, only friends.

Cynthia Fay, BS Med '75, age 67, passed away peacefully on October 26, 2017, after living for two and half years with ALS. She was lovingly surrounded by family and friends who were honored to walk with her throughout her journey. She was preceded in death by her parents Charles and Ruth Fay and her sister Cheri Brakey, all of Williston, N.D. She is survived by her wife of 29 years Kit Hadley; sister Elaine Kinnard (Dave) of Billings, Mont., brother Brad Fay (Lisa) of Bismarck, N.D., and sister Stephanie Fay (Nancy Aarsvold) of Saint Paul, Minn.; nieces Tonya Katcher (Robin) and Lisa Webster (John); nephews Chad Watterud (Dawn), Derek Watterud (Lai), Michael Brakey (Kessa), Brandon Fay, Austin Fay (Shelby), and Marcus Fay; and many loving cousins, grandnieces, and grandnephews. In recent years, she particularly enjoyed being an honorary grandmother to her grandniece Evie. A graduate of Tufts Medical School, Cynthia was a physician with Health Partners, serving the community for over 35 years and retiring from the Inver Grove Heights Clinic. She was active throughout her life, horseback riding, running, cross-country skiing, snow shoeing, canoeing, dancing, hiking and walking. She loved working with her hands, making stained glass and fused glass art, papermaking, cooking, home brewing, framing, wood-turning, and carpentry, giving many beautiful gifts to all who crossed her path. Growing up a North Dakota farm girl, she grew to love her cabin in Cloverdale, Minn., which she tended with care and shared generously, welcoming family, friends, and neighbors. She is remembered as a woman of few words and strong presence, with a mischievous sense of humor and a deep moral compass.

Robert E. Ford, MD '79, of Ketchikan, Alaska, died on December 30, 2017, in Tacoma, Wash. He was born December 25, 1945, in Kenmare, N.D. As a small boy he lived for a time in a train depot where his father was an agent. This led to a lifelong love of trains; he would fondly recall the sound of steam engines roaring past the station. His family moved to Minot where he graduated from high school, joined the Navy, and worked as a Corpsman and a Pharmacy Tech. He then returned to college and became a Medical Technologist, was married to Kathleen in 1972, and later received his medical degree from the University of North Dakota School of Medicine. He entered the Navy once again as an officer and completed his anesthesia residency in San Francisco. His Navy career took Robert and Kathleen to several areas of the country as well as to Naples, Italy, for three years. He retired from the Navy after 22 years and continued to work as an anesthesiologist at Ketchikan Medical Center in Alaska

for another 15 years. He loved his family, valued his friends, laughed easily, enjoyed good food, took pleasure in traveling the world, and was highly regarded by his colleagues in the medical profession—a life lived full and well. He would agree with Admiral Lord Mountbatten in saying, “I can’t think of a more wonderful thanksgiving for the life I have had than that everyone should be jolly at my funeral.” He was preceded in death by his parents, his older brother Ray, and niece Ronetta. He is survived by his wife, Kathleen, of Ketchikan; his sister Elaine (Bob) Newman of Katy, Texas; and several nieces and nephews whom he adored.

James “Jim” Hundley, MBAC '58, 85, of Rochester, passed away on Friday, September 22, 2017, at his home as a result of ALS/Lou Gehrig’s Disease. Jim was born May 31, 1932, in Grand Forks, N.D., to Dr. John L. Hundley and Olive Gower Hundley. He married Elaine Helbling on September 7, 1954, at St. Joseph Catholic Church, in Mandan, N.D. Jim graduated from Grand Forks Central High School. At the University of North Dakota he earned a bachelor’s degree in Biology and Chemistry and a master’s degree in Microbiology. He earned the Master of Science degree in Public Health Administration from the University of Michigan in Ann Arbor and also studied at the CDC in Atlanta, Ga. He was a member of the International Science Honor Society and a member of Sigma Chi fraternity at UND. Jim worked as a chemist for AGSCO in Grand Forks, N.D., and was a microbiologist at ND Public Health laboratories at the University of North Dakota from 1955 until 1968 until moving to Illinois where he was Director of the Public Health Laboratory in Champaign. In 1971 he moved to Rochester and was Director of the Public Health Laboratories in Springfield, Chicago, and Carbondale. Jim was first and foremost a dedicated family man. He was a gentleman and a scholar, an avid reader, a gardener, cook, birdwatcher, hunter, outdoorsman, and enjoyed classical music and the solitude of his woods. Jim is survived by his wife of 63 years, Elaine; children, Mary Jo (Charlie) Ruether, Leslie Pawlowski, Jamie (Bob) Penrod, John J. (Paula) Hundley, and Rachel (David) Hendee; grandchildren, Sarah and Anne Thatcher, Zach and Kelsey Pawlowski, Zoey and Bailey Hamilton, Joshua Hundley, and Justin Hendee; and great-grandchildren, Rory Robinson and Olivia Thatcher, and Lexi and Macy Pawlowski. Jim was preceded in death by his parents and brother, Dr. John Gower Hundley.

Elizabeth R. “Betsy” Knecht, BS AT '09, age 30, of Forest River, N.D., passed away on Monday, November 13, 2017, from injuries sustained in an automobile accident. Elizabeth R. Knecht was born March 29, 1987, in Grand Forks, N.D., the daughter of Marvin and Doris (Werner) Knecht. She attended school in Minto, graduating from Minto High School in 2005. She graduated from UND with a bachelor’s degree in Sports Medicine. She received a master’s degree from University of Idaho-Moscow in Parks and Recreation. She received a degree in Massage Therapy from Cortiva Institute in Naperville, Ill. She volunteered with the American Red Cross in Chicago while going to school. She worked for the Iowa Energy Basketball team in Des Moines, Iowa. In late 2014 she returned to Forest River where she worked for Altendorf Trucking part-time. Betsy also owned and operated Athleteology in Grafton, N.D. Betsy was very active with the American Red Cross in Grand Forks and Fargo. Betsy is survived by her parents, Marvin and Doris Knecht, Forest River, N.D.; her sister, Amanda Knecht, Fargo, N.D.; and her significant other, Kyle Spale, Minto, N.D. Several aunts, uncles, and cousins also survive. She was preceded in death by her grandparents.

Terry Wayne Torgenrud, BSMed '66, age 75, passed away peacefully on November 30, 2017, of complications from pancreatitis. Born and raised in Wahpeton, N.D., Torg, as he was affectionately known, earned his bachelor’s degree from the University of North Dakota and his M.D. from Wake Forest University School of Medicine. Having completed his residency at Madigan Army Medical Center, Torg opened a private practice with Ron Gallucci and served as a well-respected and beloved pediatrician in University Place in Fircrest, Wash., for 34 years. During his professional tenure, Torg was a member of many medical and pediatric societies and earned a Fellowship in Adolescent Medicine at the University of Washington. Torg truly enjoyed his work, meeting and treating generations of families and seeing young parents successfully raise children who would, in turn, become thriving parents of their own. In addition to ushering youngsters through healthy childhoods, Torg accomplished notable projects to benefit his community. For his many contributions over the years, Torg was honored with the Pierce County Medical Society Community Service Award. In his retirement, Torg enjoyed walking with his buddies above Chamber’s Bay and talking at Fircrest’s Exercise Science Center with his fellow gym rats. He will be remembered for his gregarious personality, avid dedication to Husky teams, sportsmanship on the tennis court and golf course, and love of family. Terry is survived by his wife Jan and three sons, Tim (Cammy), Drew (Lara), and Matt (Lisa), and his grandson Noah.



The UND Department of Physician Assistant Studies Class of 2019.



Dr. Susan Farkas, cardiologist and SMHS clinical faculty in Fargo, compares notes with Grand Forks mayor Michael Brown, MD (left), and his spouse Ann Brown, MD (right), at the SMHS northeast campus holiday party in December 2017.



Vicki Thompson, SMHS Information Resources, and UND President Mark Kennedy at the School's Grand Forks holiday party in December 2017.



At the end of 2017, Bev Johnson, DPT, retired after more than 30 years of teaching for UND's Department of Physical Therapy.



Sarah Nielsen, associate professor of occupational therapy, accepted the UND Foundation/McDermott Faculty Award for Graduate or Professional Teaching Excellence from North Dakota University System Chancellor Mark Hagerott at Founders Day in February 2018.



L to R: Brady Burckhard, MD '16, and classmate Ian Roche, MD '16, take time out from their residencies in ophthalmology and anesthesiology (respectively) at the University of Wisconsin-Madison to mug for the camera.



SMHS faculty, staff, and students wear red to draw attention to the issue of women's heart health at the SMHS in February 2018.

A National Leader in Rural Health - Serving North Dakota since 1905
1301 North Columbia Road Stop 9037 | Grand Forks ND | 58202-9037
701.777.4305 www.med.UND.edu

ADDRESS SERVICE REQUESTED

SAVE THE DATE



OCCUPATIONAL THERAPY

April 2018 - Salt Lake City--CANCELLED!
See you in New Orleans in 2019!

Photo by Adam Barker.



UND HOMECOMING 2018

Sept. 21-22 - Grand Forks



PHYSICIAN ASSISTANTS

May 3, 2018 - Holiday Inn, Fargo